Patent claims

1. A shaped body, in particular for a seat cushion, having a lower, supporting gel layer (2) which forms a lower covering surface (1), consists of a polyurethane gel and, on its upper side, has integral supports (3) which are spaced apart from one another via expansion channels (4) and on which a polyurethane foam layer (6) rests, the upper side (5) of which layer is covered by an upper covering (7).

2. The shaped body as claimed in claim 1, wherein the supports (3) are at a narrower distance from one another in the region of the pressure peaks which occur under load.

3. The shaped body as claimed in claim 1 or 2, wherein the supports (3) are of columnar design.

4. The shaped body as claimed in claim 1, 2 or 3, wherein the polyurethane foam layer (6) has, on its lower side, integral projections (6a) which enter into the expansion channels (4) of the gel layer (2).

5. The shaped body as claimed in one of the preceding claims, wherein the upper covering (7) is a spacer knit which consists of two textile surfaces connected to each other by spacer threads.

6. The shaped body as claimed in one of the preceding claims, wherein the polyurethane foam layer (6) completely or partially laterally encloses the gel layer (2).

7. The shaped body as claimed in one of the preceding claims, wherein the gel layer (2), after a film has been produced together with it pulled off, is bonded to the polyurethane foam layer (6).

8. The shaped body as claimed in one of claims 1 to 6, wherein the polyurethane foam layer (6) is bonded to the supports (3) of the gel layer (2) by an applied adhesive.

9. The shaped body as claimed in one of claims 4 to 8, wherein the integral projections (6a) of the polyurethane foam layer (6) extend as far as the bottom (8) of the expansion channels (4).

10. The shaped body as claimed in claim 9, wherein the projections (6a) of the polyurethane foam layer (6) are supported on the bottom (8) of the expansion channels (4).

11. The shaped body as claimed in one of the preceding claims, wherein the chemical structure of the polyurethane gel consists of long polymer threads and only a few linkages without added plasticizers being used.

12. The shaped body as claimed in one of claims 1 to 10, wherein an undercrosslinked polyurethane based on polyols and polyisocyanates or polyethers and polyisocyanates is used for the gel.

13. The shaped body as claimed in claim 12, wherein the gel compounds are produced using starting materials having an isocyanate functionality of the polyol component of at least 5.2, preferably of at least 6.5, in particular of at least 7.5.

14. The shaped body as claimed in claim 12 or 13, wherein the polyol component for producing the gel consists of a mixture of

a) one or more polyols having hydroxyl numbers under 112, and
b) one or more polyols having hydroxyl numbers in the range of from 112 to 600,

the weight ratio of component a) to component b) being between 90:10 and 10:90, the characteristic isocyanate number of the reaction mixture lying in the range of from 15 to 60, and the product from the isocyanate functionality and functionality of the polyol component being at least 6.

15. The shaped body as claimed in claim 12 or 13, wherein the polyol component for producing the gel consists of one or more polyols having a molecular weight of between 1000 and 12 000 and an OH number of between 20 and 112, the product of the functionalities of the polyurethane-forming components being at least 5 and the characteristic isocyanate number being between 15 and 60.

16. The shaped body as claimed in one of claims 12 to 15, wherein the isocyanates used for the production of the gels are those of the formula Q (NCO) in which N is 2 to 4 and Q is an aliphatic hydrocarbon radical having 8 to 18 C atoms, a cycloaliphatic hydrocarbon radical having 4 to 15 C atoms, an aromatic hydrocarbon radical having 6 to 15 C atoms or an araliphatic hydrocarbon radical having 8 to 15 C atoms.

17. The shaped body as claimed in one of claims 12 to 16, wherein the polyurethane is produced with isocyanates in a pure form or with urethanized, allophanisized, biurethisized or functionally correspondingly modified isocyanates.

18. The shaped body as claimed in one of the preceding claims, wherein the gel layer (2) contains elastic hollow microbeads as filler.

19. The shaped body as claimed in claim 18, wherein the hollow microbeads consist of polymeric material, preferably polyolefin.

20. The shaped body as claimed in claim 18 or 19, wherein the hollow microbeads are coated with a covering layer of an organic material, preferably calcium carbonate.

21. The shaped body as claimed in claim 18, 19 or 20, wherein the hollow microbeads have a diameter of 10 μm to 150 μm.

22. The shaped body as claimed in one of claims 18 to 21, wherein the content of hollow microbeads in the gel material is 0.1 to 10% by weight.

23. The shaped body as claimed in one of the preceding claims, wherein coarse-grained solid particles consisting of small pieces of cork, cork powder, small pieces of wood, wood shavings, foam flakes, styropor, textile fibers or pieces or textile are distributed in the gel compound.

24. The shaped body as claimed in claim 23, wherein the diameter of the solid particles is between 0.1 and 15 mm.